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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,357	02/21/2002	Takeo Ushiki	48038/01	5076

7590 03/31/2004

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EXAMINER

WILCZEWSKI, MARY A

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/078,357	Applicant(s) USHIKI ET AL.	
	Examiner Mary Wilczewski	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 2 and 6 is/are allowed.
 6) ☒ Claim(s) 1,3-5,7 and 11-15 is/are rejected.
 7) ☒ Claim(s) 8 10 16-20 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the amendment filed January 8, 2004.

Drawings

The drawings filed on February 21, 2002, are acceptable.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 5, 7, and 11-14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sasaki et al., U.S. Patent 6,224,679.

Sasaki discloses a semiconductor manufacturing apparatus having a mechanical drive part 13A which conveys wafers into and out of pod P, see Figure 1. The apparatus comprises a discharge port 25 for introducing an inert gas 31 into the vacuum

chamber and a flow rate control part 32 for controlling the inert gas flow. (Column 5, lines 4-15; column 5, line 64, bridging column 6 to line 25; column 7, lines 5-14; and column 7, line 57, bridging column 8 to line 6.)

Claims 1, 3, 4, 5, 7, 9, and 11-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Mikata, U.S. Patent 6,383,897.

Mikata discloses an apparatus for manufacturing a semiconductor device having a mechanical part 412 which is moved in a vacuum device, see Figures 3 and 4. The apparatus comprises a discharge port 12 for introducing an inert gas into the vacuum chamber and a flow rate control part 45 for controlling the flow rate of the inert gas. (Column 12, lines 55-60; column 14, lines 36-47.)

Allowable Subject Matter

Claims 2 and 6 are allowable over the prior art of record.

Claims 8, 10 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed January 8, 2004, have been fully considered but they are not persuasive. Applicants have argued that the multichamber processing system of Sasaki et al. does not include a vacuum. First, the multichamber processing system of Sasaki et al. actually does include several vacuum devices or chambers. A vacuum

device or chamber is any enclosed space in which sufficient air has been removed so that any remaining air will not affect the wafers beyond an allowable amount. A vacuum device or chamber can have various degrees of vacuum determined by the pressure within the device or chamber. A rough vacuum is one in which the pressure can be from 760 torr (atmospheric pressure) to 1 torr. Merely because the cleaning chamber of Sasaki et al. functions at atmospheric pressure does not mean that the chamber is not a vacuum chamber. Moreover, the claims do not specify any particular pressure within the vacuum chamber or device. Second, the multichambered processing apparatus of Sasaki et al. does include chambers which have higher vacuum levels than the cleaning chamber, hence, the mechanical drive part 13A of Sasaki et al. "is moveable in a vacuum device", as required by claim 1. Hence, it is argued that the cleaning chamber of Sasaki et al. qualifies as a "vacuum device" or a "vacuum chamber", since it is an enclosed chamber from which air has been removed. Thus, Applicants' claims are not deemed patentable in light of the apparatus of Sasaki et al.

Applicants have further argued that Mikata does not disclose a mechanical drive part which is located within the vacuum device or chamber. However, Applicants' specification fails to define what is meant by a mechanical drive part. Applicants merely state that the mechanical drive part located within the vacuum chamber moves the substrate within the vacuum chamber. What the mechanical drive part actually consists of is never disclosed. Since Applicants fail to disclose what components actually comprise "a mechanical drive part", or what mechanical components are encompassed by the term "mechanical drive part", it is maintained that the drive shaft 412 is a

mechanical drive part in the apparatus of Mikata, since it is responsible for raising and lowering the substrate 413 which is located on cylindrical cover 411, see figures 3 and 4. Likewise, the specification also provides no guidance in determining what mechanical means are encompassed by the term "mechanical driver" in newly-submitted claim 7. Lacking any definition in the specification, the terms used in Applicants' claims are given the broadest reasonable interpretation. Hence, the drive shaft 412 of Mikata is deemed to meet the limitation of claim 7 as to "a mechanical driver" since the drive shaft "drives" substrate 413 which is located on cylindrical cover 411 as it raises and lowers the substrate in the vacuum chamber. Admittedly, Mikata discloses that the shaft driving unit for driving the shaft is provided outside the substrate stand-by chamber (col. 12, lines 32-37), however, Applicants have not disclosed what their "mechanical drive part" comprises. As argued above, the drive shaft of Mikata can clearly be considered a mechanical drive part or a mechanical driver. The claims, as presently drafted, fail to patentably distinguish the claimed apparatus from that of the prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to M. Wilczewski at telephone number (703) 308-2771.

A handwritten signature in black ink, consisting of a stylized 'M' followed by a horizontal line.

M. Wilczewski
Primary Examiner
Tech Center 2800